U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Charleston WV Chemical Leak - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: **POLREP #4**
Continuation of Response Operations
Charleston WV Chemical Leak

Charleston, WV
Latitude: 38.3685800 Longitude: -81.6066300

To: Cindy Santiago, USEPA R3

From: Dennis Matlock and Melissa Linden, On-Scene Coordinators
Date: 2/4/2014
Reporting Period: 1/27/2014 through 2/3/2014

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:		**Incident Category:**	Removal Assessment
NPL Status:		**Operable Unit:**	
Mobilization Date:	1/9/2014	**Start Date:**	1/9/2014
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Tank failure and subsequent chemical release into the Elk River, Etowah, WV.
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1.1.2 Site Description

The Site consists of one breached tank, which is component to the facility, along with the soils beneath the tank, the pathway towards the Elk River, and the affected portion of the Elk River.

1.1.2.1 Location

The incident occurred at the Freedom Industries, located at 1015 Barlow Drive, Charleston, Kanawha County, WV 25311.

1.1.2.2 Description of Threat

An imminent substantial endangerment to welfare and/or the public caused by a chemical release.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

WVDEP conducted the initial assessment of the scene, in response to an odor complaint to their Air Division. EPA mobilized to the Site and assumed a support role to WVDEP. EPA received reports through WVDEP that the chemical was identified as "Eastman Crude MCHM", which is a mixture of components, predominantly 4-methylcyclohexanemethanol. There is a licorice odor to the compound, which is caused by 4-(methoxymethyl) cyclohexanemethanol. The material was classified as non-toxic. However, analytical testing for this particular compound is still being developed; there is no drinking water method available. Dupont was assisting the West Virginia American Water Company (WVAWC) with the testing procedure.

The spill occurred from one of three tanks that contain the MCHM. The secondary containment around the tanks was inadequate and failed. It was estimated that 5,000 gallons of the material were released. However, the volume of the compound that actually entered the river is uncertain.

The RP utilized facility personnel and initiated the hiring of contractors to place boom along the left descending bank of the Elk River, adjacent to the area of the spill. The RP also hired contractors to conduct land clean-up operations.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

See previous POLREPs for site information from January 9, 2014 through January 26, 2014.

2.1.2 Response Actions to Date

See previous POLREP for actions conducted from January 21, 2014 through January 26, 2014.

January 27, 2014

The facility continued to pump water upgradient of the tank secondary containment area. The majority of the site was frozen and most of the holes/sumps dug inside the tank containment were frozen and couldn't be pumped.

The facility revised their estimate of the amount of material leaked to 10,000 gallons. The facility's contractor continued to pump water from the intercept trench into an onsite tank for temporary storage. The facility planned to improve the intercept trench by installing perforated pipe and a sump under the liner. The sump was needed to allow any water that might accumulate under the liner to be pumped out. The liner was to be replaced over the pipe and tied into the base of the slope.

Ice in the river continued to cause difficulty with maintaining the river boom in place. The facility contractor continued to break the ice and to properly position the river booms. The booms will be allowed to freeze in place. Ice continued to be cleared from the outside of the boom so boats can access the booms along the facility shoreline.

The facility's remediation consultant, CEC, made plans to collect surface water and groundwater samples on January 29, 2014. EPA and WVDEP planned to collect split samples.

January 28, 2014

EPA planned to take split samples on January 29 along with WV DEP and CEC, the facility's remediation contractor, from the collection trench, a seep behind the tank secondary containment area, and four monitoring wells down gradient of the tank farm. Analytical services were arranged with the EPA Region laboratory to analyze the samples (5-7 sample locations) for MCHM/PPH and total VOCs.

The facility was collecting water originating from off-site into a dike at the perimeter of the facility and per agreement with WVDEP, the water could be used to dilute glycerin stored in product tanks to produce a component of antifreeze. The product was to be shipped to the facility's customers. The material was stored in tank 399.

EPA CID, FBI and CSB were on site. The investigative team made an entry into the tank that had leaked.

The local media reported that a Marshall University professor found formaldehyde in a drinking water sample from a restaurant in Charleston, WV. EPA was reaching out to the professor to identify his sampling and analytical methods.

January 29, 2014

The facility continued to pump water from upgradient of the tank secondary containment area. The majority of the site remained frozen and most of the sumps dug inside the tank containment were frozen and could not be pumped. The site team met with the facility's consultant to discuss amending the remediation plan to include improvements to the interceptor trench and installation of an additional sump.

Due to heavy ice conditions in the river, the booms were allowed to freeze in place. Ice continued to be cleared from the outside of the boom to allow boats to access the booms along the facility shoreline.

The facility's remediation consultant, CEC, collected two surface water samples. The samples were collected from locations upstream and downstream of the culvert that extends under the tank farm. EPA, WVDEP, and plaintiff representatives collected split samples. EPA's split samples were shipped to the EPA Region 3 Laboratory for VOC and MCHM/PPH analyses. CEC planned to re-develop monitoring wells onsite prior to collecting groundwater samples, which were planned for Monday, February 3, 2014.

EPA continues to leave messages for the Marshall University professor who reported formaldehyde in a drinking water sample from a restaurant in Charleston, WV but no response to date. EPA's Ft. Meade lab was also investigating the formaldehyde issue.

CSB was onsite continuing their investigative work.

January 30, 2014

The facility deepened the intercept trench on the bench by the river and installed a water collection system to segregate and collect ground water and surface water entering the trench. A sump was installed under the liner to allow for pumping of potential water infiltration under the liner. A double liner and a perforated pipe were installed at the bottom of the trench and then the trench was backfilled with stone to provide the ability to pump collected water and also provide access for heavy equipment to excavate a deeper trench to native soil adjacent to the impacted slope further to the north. During the trench excavation a pipe was discovered and inadvertently broken. The pipe, approximately 8 inches in diameter, was discharging water at a rate of approximately 1/4 gal/min and had a slight odor of MCHM. WVDEP collected a sample of the

water from the pipe. Pumping operations on the trench continued in an effort to prevent water from the site migrating to the River.

The WVAWC increased their sampling from once every two hours to once every hour due to odor complaints received the previous night. To reassure customers who detected the telltale licorice smell, the water company collected samples of raw and finished water, which remained at non-detect or low ppb levels.

The facility continued to pump water from upgradient of the tank secondary containment area. Due to heavy ice conditions in the river, the booms froze in place. Ice continued to be cleared from the outside of the boom to allow boat access to the booms along the facility shoreline.

The facility's remediation consultant began redeveloping monitoring wells in preparation for groundwater sampling next week. They completed redevelopment of three monitoring wells, with the remaining four wells to be developed later.

CSB was onsite continuing their investigative work.

January 31, 2014

The facility continued to pump water from outside of the tank secondary containment area. The water level in the interceptor trench was overflowing into the newly dug extension of the trench but increased pumping reduced the water level.

Boom maintenance continued as the weather warmed. Ice was broken up between the absorbent and skirted boom. Additional boom had been placed in the northern third of the property where work continued in an area that seeps are most likely to occur.

The facility's remediation consultant, CEC, continued to redevelop the monitoring wells for groundwater sampling scheduled for next week. CEC collected water samples from a sump outside of the secondary containment wall by the fire hydrant, with WVDEP and the plaintiff representatives receiving split samples. CEC also collected a seep sample from the north end of the rubble/debris slope but due to limited volume, there were no split samples. EPA and WVDEP planned to collect a sample from the seep the following day.

Trench boxes that support the trench walls were installed to allow access to the intercept trench and the excavated pipe. CEC collected samples from the pipe discharging water into the trench, with EPA and the plaintiff representative receiving split samples. Water continued to be pumped from the trench to prevent water from flowing into the River. A camera was run into the downhill and uphill portions of the pipe and it was discovered that the pipe stopped on both sides of the trench.

WVDEP was considering a plan to place concrete on the northern end of the intercept trench and to hand dig around the debris that is blocking the uphill section of excavated pipe to determine if material was pooling in that area.

OSHA was onsite monitoring work safety.

February 1, 2014

The facility continued to pump water from outside of the tank secondary containment area and within the intercept trench. Additionally, due to ice melt and rainfall, water was beginning to pond around the tanks within the containment area. The facility was directed to ensure the water was pumped from this area.

Boom maintenance continued with the warming weather. Additional boom was planned to be placed around the inlet of the suspected fire suppression system once river ice was removed.

The facility's remediation consultant, CEC, continued to redevelop the monitoring wells for groundwater sampling scheduled for next week. CEC anticipated submittal of a design for installation of a liner in the northern end of the intercept trench. CEC also planned to submit a plan to hand dig a sump around the debris that is blocking the uphill section of excavated pipe.

EPA collected a seep sample from the impacted slope. The sample was shipped on February 3rd to the EPA Region 3 laboratory in Fort Meade, MD to be analyzed for MCHM/PPH and VOCs.

February 2, 2014

The facility continued to manage surface and ground water seeping from the Site. A large amount of water had been pumped within the past day (more than 100,000 gallons). The excess water was due to steady rainfall combined with ice melt caused by warmer weather.

CEC reported that they hand dug a hole adjacent to the end of the pipe to the north of the trench. They reported that they encountered water with a product sheen.

February 3, 2014

It was reported that the booms deployed around the impacted shoreline of the facility were ripped free at approximately 6:00 hours on February 3, 2014. It was suspected that the ice flow and high water flowing down the Elk River caused the booms to be released. The booms were temporarily contained and tied off on the southern end of the shoreline. Multiple layers of booms were repositioned near the shoreline. Attention was focused on the rising water level in the Elk River, and the booms were being maintained to ensure their integrity remains intact.

The facility continued to work on managing surface and ground water at the Site. A large amount of water was pumped due to a combination of rainfall and ice/snow melt caused by warmer weather. The water

was pumped into an onsite tank for temporary storage.

A camlock fitting was attached to the pipe which was discharging water into the intercept trench. The fitting will allow the facility contractors to connect a hose to the pipe and pump water directly from the pipe, if needed.

The facility's remediation consultant, CEC, completed developing the monitoring wells for groundwater sampling. Sampling of the onsite monitoring wells was rescheduled for February 6th.

WVDEP requested that the facility provide an onsite single point-of-contact who has the knowledge and capability to provide direction to all facility contractors

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Responsible Party is identified as Freedom Industries, and is under orders from WVDEP. There are four orders and one revision to an order. Orders include: a cease and desist oder; an order to develop a plan to empty all 14 tanks on Site; an order to remove all material from on-site above ground storage tanks (AST) by March 15, 2014; an order to report all on-site and all information of MCHM/PPH; and begin to dismantle all ASTs on or before March 15, 2014.

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

EPA, EPA's contractors, and the USCG will support WVDEP's oversight of removal activities. The priority at this time is to contain the source and prevent further discharge of contaminants to the river. Improvements will be made to the intercept trench area to allow water and potential product that may accumulate under the liner to be pumped out. Future activities will include an assessment of an extent of contamination on Site. EPA will provide support to WVDEP with sampling activities, and other technical support, upon request.

2.2.1.2 Next Steps

- Divert the runoff water that is entering the containment area;
- Install a liner in the intercept trench between the Site and the Elk River.
- Sample the onsite monitoring wells to determine the presence and concentration of MCHM/PPH.

2.2.2 Issues

- There is the possibility of an unknown amount of MCHM/PPH and potentially other chemical liquids may exist beneath the tank;
- There is an unknown amount of MCHM/PPH that has seeped into the soils/materials located along the river bank.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

Freedom Industries
EPA OSC on Site (Advisory Role)

2.5.2 Liaison Officer

EPA Mark Ferrell

2.5.3 Information Officer

3. Participating Entities

3.1 Unified Command/Facility (Freedom Industries)

WVDEP
USEPA
USCG
Freedom Industries

3.2 Cooperating Agencies

WVDHHR

National Guard
WVDNR
ORSANCO
WVAWC
CSB
CDC/ATSDR

4. Personnel On Site

WVDEP
USCG
USEPA
START (TechLaw)
Freedom Industries
Civil & Environmental Consultants
Clean Harbors
Diversified Services LLC
CSB

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.